Tender Amendment/ Clarification Document

Date: 13th July 2023

Ref.: GIPCL/Solar/BOS/2023-24

To,
Prospective Bidder(s),

Sub: Amendments/ Clarifications to "Notice Inviting Tender for Balance of System Package for 600 MW Solar PV Project at Great Rann of Kutch, Nr. Vill. Khavda in Gujarat, India."

Ref.: 1) Tender Enquiry Document No. GIPCL/Solar/BOS/2023-24, dated 23rd May 2023.
2) Amendment-1, dated 26th June 2023

(1) GIPCL has floated Notice Inviting Tender for Balance of System Package for 600 MW Solar PV Project at Great Rann of Kutch, Nr. Vill. Khavda in Gujarat, India (GIPCL/Solar/BOS/2023-24).

(2) GIPCL received queries from various potential Bidders in response to the Tender.

(3) Based on the deliberations with participants in the Pre-Bid Meeting, amendments/ clarifications to the Tender Enquiry Documents are being issued (The "Amendment Document").

(4) This Amendment Document shall now be considered as an integral part of the Tender Enquiry Document. All other terms and conditions applicable to the Tender shall now be applicable to this Amendment Document also. Any amendments/clarifications indicated in this Amendment Document shall supersede all relevant terms and conditions/ clauses of the EPC Tender.

(5) The Bidder shall understand, duly sign and seal each page of this Amendment/Clarification Document and submit as per the method / procedure mentioned in the Tender.

Yours faithfully,
For and on behalf of GIPCL

Sd/-
General Manager (RE Projects & IT)

Enclosed: 1). Attachment-1 (Amendment-2).
2). Consolidated Response to Bidder's Queries.

Attachment-1 (Amendment-2)

Date: 13.07.2023

IMPORTANT NOTE

Amendment / Addendum / Clarification / Corrigendum issued herein shall form part of Tender Enquiry Document on 23rd May 2023. All Bidders to please note that Amendment/Addendum/Clarification/Corrigendum issued will supersede the respective Clause / Sub-Clause of Original Tender Enquiry Document to the extent for the Clause / Sub-Clause or part thereof the amendment is issued. All other terms and conditions of the original Tender Enquiry Document No: GIPCL/Solar/BOS/2023-24 published on 23rd May 2023 will remain unchanged.

Amendment to the TED GIPCL/Solar/BOS/2023-24

All the Tender Terms & Conditions will remain unchanged other than the below Amended Term

Sr. No.	Volume/Section	Clause No.	Page No.	Original Term	Amended Term
1.	VOLUME - II PART - 2 (Schedule - III B, Section B2)	4 -13	37 of 179	Short Circuit Withstand capability kA 31.5 for 1 sec	Short circuit withstand capability of the Switchgear shall be ~~31.5 KA for 1 sec~~ **as per system study and design requirements with an additional margin as per Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 (Chapter 4, Part B, Clause No 59)**
2.	VOLUME - II PART - 2 (Schedule - III A, Section A5)	3.6	49 of 82	The DC cabling up to Inverter shall be designed such that the average DC ohmic power loss at STC loss does not exceed 1.5%.	The DC cabling up to Inverter shall be designed such that the average DC ohmic power loss at ~~STC~~ **actual site ambient temperature** does not exceed 1.5% **and it shall be as per latest CEA regulations**
3.	VOLUME - II PART - 2 (Schedule - III A, section A6)	4.0	56 of 82	The DC cabling up to Inverter shall be designed such that the average DC ohmic power loss at STC does not exceed 1.5%.	The DC cabling up to Inverter shall be designed such that the average DC ohmic power loss at ~~STC~~ **actual site ambient temperature** does not exceed 1.5% **and it shall be as per latest CEA regulations**
4.	VOLUME - II PART - 3 (Schedule - VI)	Part -A (Sub clause 3)	27 of 34	The test will consist of guaranteeing the correct operation of the plant over 30 days, by the way of the efficiency rate (performance ratio) based on the reading of the energy produced and delivered to the grid and the incident solar radiation (Average of all the pyranometers shall be considered for calculation of PR). During this period of 30 days, any 5 (five) instances, preferably during 11:00 to 14:00 hrs. of 15 (fifteen) minutes shall be taken to calculate the instantaneous Performance Ratio of 15 minutes block as per the formula given below in Point No. 5. During the 15-minute measurement period(s), minimum availability of the plant shall be 99%. If the PR of these fives instances is above 75%, then Operational Acceptance Test (OAT) shall be considered successful.	The test will consist of guaranteeing the correct operation of the plant over 30 days, by the way of the efficiency rate (performance ratio) based on the reading of the energy produced and delivered to the grid and the incident solar radiation (Average of all the pyranometers shall be considered for calculation of PR). ~~During this period of 30 days, any 5 (five) instances, preferably during 11:00 to 14:00 hrs. of 15 (fifteen) minutes shall be taken to calculate the instantaneous Performance Ratio of 15 minutes block as per the formula given below in Point No. 5~~**. During 30 Days period, the daily PR shall be calculated considering the cumulative irradiation, Energy exported and daily average PV module temperature as measured in the SCADA (During sunrise to sunset). The daily PR shall be again averaged for entire 30 Days and which shall be greater than or equal to 75%. In case non-availability of Grid (which is beyond the control of EPC contractor) the period of the same shall be excluded for calculation of the PR**. During the ~~15-minute~~ **entire 30 days PR** measurement period(s), minimum availability of the plant shall be 99%. If the PR ~~of these fives instances~~ is ~~above~~ **greater than or equal to** 75%, then **the** Operational Acceptance Test (OAT) shall be considered successful.
5.	VOLUME - II PART - 3 (Schedule - VI)	Part -A (Sub clause 5.1)	27 of 34	**Performance Ratio (PR) = YA / YR** Where. YA = Final (actual measured) PV system yield in kilo-watt hours (kWh) at the point of measurement during the testing period, and YR = Reference yield calculated as the product of the average insolation of all the pyranometers on the plane of the collector (i.e., PV modules) in kWh/m2 during the testing period and the installed DC capacity of the plant in kW.	~~**Performance Ratio (PR) = YA / YR**~~ ~~Where.~~ ~~YA = Final (actual measured) PV system yield in kilo-watt hours (kWh) at the point of measurement during the testing period, and~~ ~~YR = Reference yield calculated as the product of the average insolation of all the pyranometers on the plane of the collector (i.e., PV modules) in kWh/m2 during the testing period and the installed DC capacity of the plant in kW.~~

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				= [Insolation on the plane of the collector (i.e., PV modules) in kWh/m2 during the testing period] x Installed DC capacity = (kWh/m2) x Installed DC capacity	~~= [Insolation on the plane of the collector (i.e., PV modules) in kWh/m2 during the testing period] x Installed DC capacity~~ ~~= (kWh/m2) x Installed DC capacity~~ **Performance Ratio (PR)** $$PR_{day} = \frac{\sum_j E_{meas,j}}{P_{nom} \cdot \sum_j \left(\frac{G_j}{G_{ref}} \cdot \left(1 + \frac{\beta}{100} \cdot (T_{meas,j} - 25\ ^\circ C) \right) \right)}$$ Where: (i) $E_{meas,j}$ = Produced energy (kWh) over each metering interval j; (ii) P_{nom} = Nominal power of the PV plant (kWp). Sum of the individual module power of all installed modules as per the relevant data sheets. (iii) G_j = Irradiation (kWh/m²) measured per each metering interval j with an on-site pyranometer with an identical inclination to the modules. Average measurement of the installed pyranometers shall be considered. (iv) G_{ref} = 1 kW/m^2, irradiance at STC conditions. (v) PR_{day} = Average PV plant PR during the testing period. (vi) $T_{meas,j}$ = Average module temperature (°C) measured during each metering interval j by the temperature sensors placed on the back side of the modules. Weighted average measurement of the installed module temperature sensors shall be considered. (vii) β = Weighted average of power temperature coefficients of the PV modules as per the relevant data sheets. β shall be a negative value; and (viii) j = Interval for PR test (i.e., sunrise to sunset duration of a day).

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6.	VOLUME - I SECTION –1	TABLE A: IMPORTANT DATES Sr. No. vi	3 of 13	Online (e-tendering) Tender/Offer submission last date {This is mandatory}	11th July, 2023 Time: 17:00 hours (IST) On n-procure portal for Bid Submission	Online (e-tendering) Tender/Offer submission last date {This is mandatory}	**25th July, 2023** Time: 17:00 hours (IST) On n-procure portal for Bid Submission
7.	VOLUME - I SECTION –1	TABLE A: IMPORTANT DATES Sr. No. vii	4 of 13	Physical receipt of Bid with all the relevant documents last date (By RPAD or Speed Post or By Personal Messenger) {This is mandatory}	13th July, 2023 Venue: GIPCL Corporate Office, PO: Ranoli - 391 350, Dist. Vadodara.	Physical receipt of Bid with all the relevant documents last date (By RPAD or Speed Post or By Personal Messenger) {This is mandatory}	**26th July, 2023** Venue: GIPCL Corporate Office, PO: Ranoli - 391 350, Dist. Vadodara.
8.	VOLUME - I SECTION –1	TABLE A: IMPORTANT DATES Sr. No. xi	4 OF 13	Schedule date for Commissioning of 600 MW Projects:	15 Months from the date of issue of LoI	Schedule date for Commissioning of 600 MW Projects:	**15 (Fifteen) months for the commissioning of first 300 MW and 17 (Seventeen) Months for the commissioning of total 600 MW** from the date of issue of LoI
9.	VOLUME - I SECTION –1	TABLE B: IMPORTANT AMOUNTS Sr. No. iii	6 of 13	Security Deposit cum Performance Bank Guarantee (PBG)	The Contractor shall furnish Security Deposit (SD) cum Performance Bank Guarantee (PBG) equivalent to 10% (ten percent) of the EPC Contract Price within 01 month after issuance of LoI. The validity period of PBG should be for a total period up to 30 months from the date of LoI or till the date of successful completion of PG test whichever is later; if required, the PBG shall have to be extended for further 3 months beyond the due date of successful completion of PG test.	Security Deposit cum Performance Bank Guarantee (PBG)	The Contractor shall furnish Security Deposit (SD) cum Performance Bank Guarantee (PBG) equivalent to 10% (ten percent) of the EPC Contract Price within 01 month after issuance of LoI. The validity period of PBG should be for a total period up to ~~30 months~~ **32 months** from the date of LoI or till the date of successful completion of PG test whichever is later; if required, the PBG shall have to be extended for further 3 months beyond the due date of successful completion of PG test.
10.	VOLUME - I SECTION –4	13.2.1	76 of 105	Contractor shall furnish to Owner within 30 (Thirty) Days from the date of issue of Letter of Intent (LOI) by the Owner, a Contract Performance Bank Guarantee (the “Performance Security”) as a Performance Security for due and faithful performance of its obligations under Contract, issued by Indian Nationalised/Scheduled Banks for an amount equivalent to 10% (Ten percent) of the total EPC Contract Price. The Performance Security shall be kept valid up to 30(Thirty) Months or till the date of successful completion of PG Test whichever is later plus claim period of twelve Months.		Contractor shall furnish to Owner within 30 (Thirty) Days from the date of issue of Letter of Intent (LOI) by the Owner, a Contract Performance Bank Guarantee (the “Performance Security”) as a Performance Security for due and faithful performance of its obligations under Contract, issued by Indian Nationalised/Scheduled Banks for an amount equivalent to 10% (Ten percent) of the total EPC Contract Price. The Performance Security shall be kept valid up to ~~30(Thirty)~~ **32 (Thirty Two)** Months or till the date of successful completion of PG Test whichever is later plus claim period of twelve Months.	
11.	VOLUME - I SECTION –4	Advance Payment 13.3.1 - f sub clause (b)	78 of 105	Bank Guarantee equivalent to the advance payment with 1 (one) copy of original Bank Guarantee valid up to 15 months initially and if required further extended till successful completion of all punch points, submission of O&M documents and handing over of Plant to O&M complete in all respect, issued by Indian Nationalised Banks/ or other banks as per the list given in Section -6, Appendix-15.		Bank Guarantee equivalent to the advance payment with 1 (one) copy of original Bank Guarantee valid up to ~~15~~ **17 (Seventeen)** months initially and if required further extended till successful completion of all punch points, submission of O&M documents and handing over of Plant to O&M complete in all respect, issued by Indian Nationalised Banks/ or other banks as per the list given in Section -6, Appendix-15.	

Sr. No.	Volume/Section	Clause No.	Page No.	Original Term	Amended Term
12.	VOLUME - I SECTION –5	1.0	1 of 11	Time for Completion The guaranteed time schedule for successful commissioning of facilities for 600 MW (AC) Solar PV Plant is within 15 (Fifteen) months from the date of issue of LoI by Owner.	Time for Completion The guaranteed time schedule for successful commissioning of facilities for 600 MW (AC) Solar PV Plant **shall be 15 (Fifteen) months for the commissioning of first 300 MW and 17 (Seventeen) Months for the commissioning of total 600 MW** ~~is within 15 (Fifteen)~~ from the date of issue of LoI by Owner.
13.	VOLUME - I SECTION –5	Annexure -I Part A, Sr. No 1, sub clause (iii)	7 of 11	(iii) Submission of Performance Bank Guarantee (validity of minimum 30 months) -10% of the total EPC Contract Price	(iii) Submission of Performance Bank Guarantee (validity of minimum ~~30~~ **32** months) -10% of the total EPC Contract Price
14.	VOLUME - I SECTION –6	APPENDIX-4:	11 of 70	**NOTES:** 1. The Bidder shall ensure that the entire work is completed (including but not limited to Commissioning/COD of 600 MW Solar PV Pant) within 15 (Fifteen) Months from the date of issue of LoI.	**NOTES:** 1. The Bidder shall ensure that the entire work is completed (including but not limited to Commissioning/COD of 600 MW Solar PV Pant) within ~~15 (Fifteen)~~ **17 (Seventeen)** Months from the date of issue of LoI.
15.	VOLUME - II PART - 3 (Schedule - VI)	Part -A (Sub clause 5.2 - e)	28 of 34	Thermocouples to measure module temperature with a measurement uncertainty of ±1°C (for reference only).	Thermocouples to measure module temperature with a measurement uncertainty of ±1°C. ~~(for reference only).~~
16.	VOLUME - II PART - 3 (Schedule - VI)	Part -B (Sub clause 4 – b)	29 of 34	Effect due to variation of meteorological parameters e.g., ambient temperature, module temperature, wind speed, humidity etc. shall not be considered.	Effect due to variation of meteorological parameters e.g., ambient temperature, module temperature **(except PR calculation),** wind speed, humidity etc. shall not be considered.
17.	VOLUME - II PART – 2 (Schedule – III B, section B.9)	3.6 (sub clause g-1)	121 of 179	Weather Monitoring Stations data: Global Horizontal Irradiance, Global Inclined Irradiance and Diffuse Horizontal Irradiance, Ambient Temp, Wind Speed, Wind Direction, Rain Fall and Relative Humidity. 1 (One) Minute interval	Weather Monitoring Stations data: Global Horizontal Irradiance, Global Inclined Irradiance and Diffuse Horizontal Irradiance, Ambient Temp, **PV Module Temperature,** Wind Speed, Wind Direction, Rain Fall and Relative Humidity. 1 (One) Minute interval